GERALDEVE

Regeneration and Planning
Development Management
London Borough of Camden
Town Hall
Judd Street
London
WC1H 9JE

2nd July 2020

Our ref: GAO/ANE/CHST/J7623A
Your ref: 2019/6292/P

Dear Thomas,

Castlewood House (77-91) and Medius House (63-69), New Oxford Street, London, WC1A 1DG
Discharge of Condition 29 (Ref. 2019/6292/P) of Planning Permission Ref. 2017/0618/P
SuDS

On behalf of our client, Royal London UK Real Estate Fund, we write further to the receipt of Officer comments in relation to application 2019/6292/P (SuDS) at Castlewood and Medius House.

Condition 29 of the planning permission requires the following:

> **'Prior to the commencement of development within the relevant phase (a) Castlewood House; (b) Medius House, other than demolition site clearance and preparation works, full details of the sustainable drainage system including green/blue roofs, shall be submitted to and approved in writing by the local planning authority. Such a system should be designed to accommodate all storms up to and including a 1:100 year storm with a 40% provision for climate change, such that flooding does not occur in any part of a building or in any utility plant susceptible to water, and shall demonstrate 50% attenuation of all run off. Details shall include a lifetime maintenance plan, and shall thereafter retained and maintained in accordance with the approved details'.**

On 14th January 2020, application 2019/6292/P was registered with Camden Borough Council. Details submitted include:

- Drainage Strategy Report, prepared by Davies Maguire;
- London Sustainable Drainage Proforma (Castlewood House); and
- London Sustainable Drainage Proforma (Medius House).

Sustainability Feedback

Following submission of the application, a number of comments have been received from Camden's Sustainability Team in relation to the attenuation system, specifically the exclusion of a blue roof system, as set out below:

On 12th February 2020, a total of six issues were issued by Camden Council, as follows:

1. **Additional documentation required including completed Camden proformas, micro drainage run-off rates and details of flow routes for exceedance events.**
2. **Revised tables required to include 100-year event with and without 40% climate change calculations;**
3. **Revised tables required to be correct and attenuation values calculated to include 100-year event with and without 40% climate change**
4. **Green-blue combination roof to be researched and proposed;**
5. **Information regarding the attenuation tank and further details including dimensions, depth, capacity and void ration required; and**
6. **Maintenance schedule setting out responsibilities for ongoing maintenance required.**

A response was issued to Camden Council on 27th February responding to queries raised. [See accompanying email A].

On 13th March 2020, confirmation was received from Camden Council that the issues as set out above had been resolved, with the exception of the blue roof. Additional information was requested in relation to why the blue roof was not considered to be fire safety compliant.

The appointed project Fire Engineer provided a response to Camden Council, as follows:

The roof build-up on Castlewood House needs to achieve a Broof (T4) fire performance classification. To achieve this classification the whole roof build up needs to be tested as a combined system.

Where stone/concrete pavers are provided these are obviously non-combustible and therefore don't present a fire hazard (and can be tested to achieve the Broof classification). However, there are gaps between pavers that are not assessed as part of the test. Burning items (such as cigarettes) or embers from a fire in an adjacent building fire (which is an item that must be consider under Part B of the Building Regulations) can drop through these gaps and come in contact with the materials below. Where blue roofs are proposed on accessible terraces these materials are generally located directly below the pavers with a membrane on top.

To date none of the blue roof suppliers on the projects which we have been involved have been able to provide fire test data to confirm how their products will perform in the event of fire. We are therefore advising that to mitigate this potential hazard, where possible, a build up of non-combustible material (e.g. pea shingle) is provided above the blue roof to create or a physical barrier to prevent burning items dropping through onto the blue roof build up. If it is not feasible to include this protection due to other project constraints, then until such time that the fire performance of blue roof products can be confirmed through appropriate fire testing, we are advising clients that these products present an unquantified fire hazard and therefore should not be include within the building envelope. This is considered prudent until such time as the fire performance of these materials is known and where robust measures to mitigate the possible fire hazard cannot be included.

On 19th March, a further response was received from Camden Council. Concern was raised with regard to the level of rainwater attenuation of the building without blue roof systems. Two additional points were provided for considerations:

1. **Can you provide exhaustive market research (or trade association guidance) to confirm the statement "To date no blue roof supplier has been able to provide fire test data to confirm how the product will perform in the event of fire"; and**
2. **Alternatives should be explored such as replacing some or all of the terraced areas with intensive (150mm depth) green roof with stepping stones to allow access and plinths for any seating.**

On 24th March, it was confirmed that the proposed attenuation design achieves the same attenuated outfall rates to the sewer with or without a blue roof; the attenuation tank and flow restriction device are sized to ensure that the outfall rate meets the consented rate from the planning submission. The difference is solely whether rainwater is stored on the roof or in the basement.

Camden Council responded on 24th March, stating:

A major issue with blue roof as a technical measure has the potential to affect all development sites in the borough, and has largescale policy implications for current and future assessment of schemes in sustainability terms. My understanding is that blue roofs provide a better model of attenuation than tanks alone.

They [the Sustainability Team] have received feedback to their enquiries, indicating the adding of paving as a fire break above the blue roof and below the finish. So far according to the individual they spoke to there has been no objection raised re. fire safety in response to this solution, in the cases that were known about.

With respect to this case, they are keen to understand whether this development could technically incorporate such a measure and if so, would it meet everyone's needs including safety regulations.

As set out above, feedback has been issued to the comments raised above, however, in order to provide a comprehensive response on topic, this letter sets out below our client's positions based on expert consultant advice. Accordingly, the following points are reviewed in turn and a response provided:

1. **Blue roof (rainwater attenuation) excluded due to fire safety. Further investigation required to seek to enable attenuation which is compliant with fire safety requirements. If not possible details, including evidence, required on how specifically these will not comply.**

2. **Concern that the building will no longer provide as good a level of rainwater attenuation without it. Two points to consider:**

    - **Can exhaustive market research (or trade association guidance) be provided to confirm the statement "To date no blue roof supplier has been able to provide fire test data to confirm how the product will perform in the event of fire"**
    - **Alternatives should be explored such as replacing some or all of the terraced areas with intensive (150mm depth) green roof with stepping stones to allow access and plinths for any seating**

3. **Exploration of options for including further intensive green roof areas requested.**

4. **Blue roof as a technical measure has the potential to affect all development sites in the borough, and has largescale policy implications for current and future assessment of schemes in sustainability terms. LPA understanding that blue roofs provide a better model of attenuation than tanks alone.**

   Feedback received relating to the adding of paving as a fire break above the blue roof and below the finish. According to the consultant Camden spoke to, there has been no objection raised in relation to fire safety in response to this solution, in the cases that were known about.

   With respect to this case, they are keen to understand whether this development could technically incorporate such a measure and if so, would it meet everyone's needs including safety regulations.

Team Response

A response to the comments issued by Camden's Sustainability Team (see 'Sustainability Feedback') is provided below, addressing each point raised in turn.

Point 1: "Blue roof (rainwater attenuation) excluded due to fire safety. Further investigation required to seek to enable attenuation which is compliant with fire safety requirements. If not possible details, including evidence, required on how specifically these will not comply."

Point 4: "Blue roof as a technical measure has the potential to affect all development sites in the borough, and has largescale policy implications for current and future assessment of schemes in sustainability terms. LPA understanding that blue roofs provide a better model of attenuation than tanks alone.

Feedback received relating to the adding of paving as a fire break above the blue roof and below the finish. According to the consultant Camden spoke to, there has been no objection raised in relation to fire safety in response to this solution, in the cases that were known about.

With respect to this case, they are keen to understand whether this development could technically incorporate such a measure and if so, would it meet everyone's needs including safety regulations".

Fire Safety Considerations

The roof build-up on Castlewood House needs to achieve a Broof (T4) fire performance classification. This requires the whole roof build up to be tested as a combined system.

Where stone/concrete pavers are provided these are non-combustible and therefore don't present a fire hazard. However, there are gaps between pavers that are not assessed as part of the test. Burning items (such as cigarettes) or embers from a fire in an adjacent building fire (which is an item that must be consider under Part B of the Building Regulations) can drop through these gaps and come in contact with the materials below. Where blue roofs are proposed on accessible terraces these are generally directly below the pavers.

To date none of the blue roof suppliers on the projects Arup Fire have been involved in have been able to provide fire test data to confirm how their products will perform in the event of fire. They are therefore advising that to mitigate this potential hazard, where possible, a build-up of non-combustible material is provided above the blue roof to create or a physical barrier to burning items dropping through.

This requires adding 50/60mm layer of shingles to the terrace build up. This has an impact on the overall floor to floor heights of every level with a terrace in order to maintain level access from the floor plate to the terrace. This equates to a total additional 180mm on Medius House and 360mm on Castlewood House which not only pushes the buildings outside the consented planning envelope but will also have an impact on neighbouring buildings in terms of Rights of Light and Daylight and Sunlight. Any increase in height may also have an impact on the townscape views from local conservation areas.

Design Considerations

In structural terms, neither Castlewood House nor Medius House structural frames have been designed to support the increased loads due to either shingle added on top of a blue roof, or an intensive green roof in the terrace areas. Incorporating either feature would require additional steel weight in the roof/terrace structures, and potential increase to column sizes.

From a Building Regulations perspective, MLM Group have reviewed the details submitted against application 2019/6292/P and are satisfied with the current proposal in terms of compliance with Fire Safety and rainwater attenuation. It is not considered that the current proposal have an adverse effect on the overall attenuation strategy.

Point 2: "Concern that the building will no longer provide as good a level of rainwater attenuation without it. Two points to consider:

- **Can exhaustive market research (or trade association guidance) be provided to confirm the statement "To date no blue roof supplier has been able to provide fire test data to confirm how the product will perform in the event of fire"**
- **Alternatives should be explored such as replacing some or all of the terraced areas with intensive (150mm depth) green roof with stepping stones to allow access and plinths for any seating"**

Drainage Considerations

Due to the project characteristics, from a drainage perspective, blue roofs will not provide any significant benefits to the drainage proposal. While blue roofs slow down rainwater runoff rates, they would only provide attenuation to the roof areas connected to them. Rainwater on the remaining roof areas would still need to be conveyed via rainwater pipes into the currently proposed attenuation tank.

As specified in CIRIA The SuDS Manual C753, the reduction in the volume of runoff from a blue roof is unlikely to impact on downstream attenuation storage requirements. This is also because blue roofs provide more benefits in terms of reducing peak flow rates in summer, where intense short duration events may generate very little runoff from the roof. Critical duration events for developments are commonly between 12 to 35 hours, which tend to be representative of autumn and winter, so reductions in runoff volumes from blue roofs are likely to be small.

The proposed attenuation tank has been designed to achieve the approved outfall rate without the addition of blue roofs, so there is not a reduction in performance on the attenuation system due to the exclusion of blue roofs.

Blue roofs will not improve the amenity value of the development as they will be installed below the proposed terrace paving. Therefore, the amenity value is only defined by the aesthetics and use of the terrace space.

The 4th discharge method specified in the London Plan is to '*attenuate rainwater by storing in tanks or sealed water features for gradual release*'. It can be considered that both, blue roof and attenuation tanks, are included in this method. Therefore, following this hierarchy and based on the above constraints it is preferred to use an attenuation tank rather than blue roofs.

Point 3: "Exploration of options for including further intensive green roof areas requested".

Alternate solutions such as extensive green roof systems are not suitable for heavy foot traffic or publicly accessible areas. They are meant as a visual and environmental amenity and only stand up to light maintenance traffic. As such, any increase in the quantum of green roof would have a detrimental effect on the amount of terrace space accessible to the building's occupants.

By designating areas of the terrace space as green roof we are making the terraces less flexible for tenants specific needs now and in the future, and reducing their availability for 'wellbeing' activities such as yoga or pilates which may have a negative impact on the WELL score we are targeting.

It is therefore considered that the proposed SuDS details as submitted are acceptable, and should be approved without delay.

Please do not hesitate to contact Alex Neal (020 7333 6301) or Chloe Staddon (020 3486 3417) of this office should you have any questions or concerns.

Yours faithfully,

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Enc. As above
Via the Planning Portal